Appendix B: Case Studies of UV Risk Education Programs

School-Based Program: SunWise

EPA developed the SunWise School Program to raise awareness of the health risks associated with UV overexposure and to encourage behavior change to reduce these risks. EPA focused on schools because children are at particular risk for sun exposure. Along with traditional education practices that promote sun protection, SunWise encourages schools to implement infrastructure enhancements, such as providing shade through canopies and trees, and to establish policies such as requiring hats, sunscreen, and sunglasses when outdoors. The program is designed to provide maximum flexibility—elements can be used as stand-alone teaching tools or to complement existing school curricula. Though based in schools, SunWise also supports community partnerships, such as inviting guest speakers to school assemblies.

SunWise Partner Schools receive materials and tools free of charge to help implement SunWise in their classrooms and communities. The SunWise Toolkit contains cross-curricular classroom lessons and background information for K through 8 learning levels. The toolkit also includes tools, including a UV-sensitive frisbee, a hand-held UV meter (if requested), and the *On the Trail of the Missing Ozone* comic book, that reinforce sun safety lessons. To reward your students for their participation in the SunWise Program, the kit also contains an easily photocopied "Certificate of SunWisdom."

Along with the toolkit, SunWise offers several brochures, fact sheets, and activity books with suggestions and recommendations for sun safety practices and activities. The program also maintains an Internet Learning site and a newsletter highlighting issues, trends, and success stories. The SunWise Web site (www.epa.gov/sunwise) gives details on the program and the importance of sun safety and is divided into sections for educators, students, health care providers, and the media.

The SunWise Web site offers a database for partner schools to enter their local daily UV forecast and intensity data. This collected data can then be accessed to create maps and graphs that can be used as educational tools. For more information, go to <www.epa.gov/sunwise> or contact Kevin Rosseel at <rosseel.kevin@epa.gov>.

Community-Wide Program: Working with New Hampshire Caregivers To Protect Children from the Sun (The SunSafe Project)

By training a variety of caregivers on how to promote sun protection to children and parents, health specialists at Dartmouth Medical School in New Hampshire demonstrated that community-wide UV risk education programs can lead to long-term positive changes in sun protection behavior. After initial SunSafe

project interventions at New Hampshire schools, daycare centers, primary care physician offices, and beaches in 1996, and then a brief follow-up in 1997, the proportion of children 2 to 11 years of age practicing at least some sun protection behavior increased from 58 percent to 73 percent. SunSafe also resulted in an increase in the proportion of children fully protected by sunscreen, clothes, and shade (from 31 percent to 50 percent), a decrease in the proportion of children without any sun protection (from 42 percent to 27 percent), and an increase in the proportion of parents receiving sun protection information from physicians and schools (from 46 percent to 62 percent).

Ten New Hampshire communities participated in the SunSafe project, with five receiving interventions, and five acting as controls. Instead of targeting children and parents directly, project organizers instead focused on teachers, primary care physicians, and lifeguards.

- Teachers at schools and daycare centers received SunSafe curricula with lesson plans and educational activities modeled after Australia's SunSmart program (see page 48).
- Primary care physicians received a manual that teaches office staff and clinicians how to promote sun protection during medical checkups. In addition, to enhance sun protection counseling, project organizers provided physicians with educational posters, pamphlets, and self-adhesive reminder notes.
- Lifeguards received displays about the UV Index and sun protection to be posted at beaches. Project organizers also encouraged lifeguards to provide SunSafe pamphlets and free sunscreen samples to beachgoers.

In addition to providing outreach and educational materials, organizers visited principals, teachers, physicians, and lifeguards to encourage implementation of the SunSafe project and provide technical assistance with activities. All outreach and educational materials conveyed the same basic messages:

- Avoid or limit exposure during the sun's peak hours of 11am to 2pm. Teach your child to seek shade if he or she is outside during peak hours.
- Cover up with clothing and a hat with a brim. Wear a shirt and long shorts that go to the knee or below.
- Block the sun's rays through the use of a sunscreen with an SPF of 15 or higher. Be sure to put sunscreen on all areas not covered up.
- Say something to your friends and family about being SunSafe. Remind them that shirts, hats, and sunscreen are important for the whole family to use every time you are going to be out in the sun.

To track changes in children's sun protection behavior, project organizers trained a number of observers to visit beaches, interview parents, and detail children's sun protection behavior. Based on their observations and analyses, Dartmouth

Medical School health specialists demonstrated that the SunSafe UV risk education project provided long-term benefits to the community.

Since completing the study in 1998, project organizers have initiated a new SunSafe project that targets adolescents. This project, which will run through 2003, will provide educational materials to middle school teachers and outdoor sports and recreation staff, and will ask teenagers to participate in a survey and keep a diary to track their sun protection behavior during the summer. For more information, contact the SunSafe Project, Department of Community and Family Medicine, Dartmouth Medical School, at 603 650-1566, or visit the SunSafe Web site at <www.dartmouth.edu/dms/sunsafe/>.

Outdoor Recreation Program: Helping Georgia Soccer Coaches Promote Sun Protection

In Georgia, where sports are played almost year-round, more than 75,000 youth play soccer in recreational and competitive leagues. To address the need to protect soccer-playing youth from overexposure to the sun, university medical researchers and health communication professionals developed a UV risk education pilot project that trained soccer coaches to promote sun-safe behavior to young soccer players. The project focused on eight soccer teams of the St. Simons Island's youth soccer association in south Georgia.

To determine the content of the soccer coach training program, project organizers conducted a pretest survey to understand the sun protection practices and beliefs among soccer coaches and parents of soccer-playing youth. The pretest identified, for example, that coaches and parents believed it would be difficult for them to get youths to practice sun protection behaviors. The pretest also underscored knowledge gaps, such as in understanding the differences between waterproof, water-resistant, and sports sunscreens.

Project organizers randomly selected half of the soccer coaches who had participated in the pretest survey to receive the UV risk education training. Based on the results and insights gained from the pretest, the program trained coaches to serve as role models by practicing sun-safe behaviors themselves, encouraging youth to apply sunscreen before coming to games and soccer practices, and educating parents about the importance of sun protection. To complete the training, coaches attended a sun protection seminar and received an informational booklet on sunburn prevention strategies, skin cancer, and the importance of reducing sun exposure in youth. During the course of the season, coaches promoted sun protection to youths and parents, and served as positive role models.

In addition to informing the content of the training program, the pretest survey provided baseline data that project organizers used in conjunction with a post-test survey to evaluate the effectiveness of the pilot project. The evaluation showed that as a result of the program, coaches and parents were more likely to tell youths to wear sunscreen, and coaches were better able to get youths to practice sun-safe behaviors. For more information, contact Roxanne Parrott of the Office of Health Communication, University of Georgia, at <rparrott@arches.uga.edu>.

Young Adult Program: School-Based Education for Teenagers in Australia

Because teenagers are often susceptible to peer pressure, it is a particular challenge to influence them to adopt behaviors that their peers might find socially unacceptable. Researchers from the Center for Health Promotion and Cancer Prevention Research at the University of Queensland in Australia developed a school-based UV risk education curriculum that sought to address the peer pressures that teenagers face.

Health and physical education teachers at 13 schools in Queensland, Australia, taught the curriculum to students every year for 3 years, from 8th to 10th grade, during a 4- to 6-week period just prior to summer vacation. Through role playing, problem-solving, and student-directed activities, students explored the myths about sun exposure, the role of peer pressure in tanning, and motivations for acting in health-compromising or health-enhancing ways. Students also learned to plan ahead for sun safety and practiced critical thinking by analyzing how the mass media favors certain images. To help students put their newly acquired knowledge to work, teachers encouraged them to create advertisements that debunked media images and to brainstorm possible sun protection school policies that students might find acceptable.

To measure the effectiveness of the curriculum, researchers used surveys before and after each year's program to assess students' sun protection knowledge, attitudes, and behavior. To ensure the results of the surveys were due to the curriculum and not to any other factors, the researchers also surveyed students in 13 other schools in Queensland that did not receive the curriculum. In the 9th grade, the students receiving the curriculum showed a marked improvement in knowledge and some behavior change compared to students not receiving the curriculum; however, when the students were surveyed in the 10th grade, it appeared they were not practicing sun-safe behaviors as often as before. The researchers attribute the regression in behavior to the many social and cultural pressures teenage students face inside and outside of school, such as the priority given to sun protection by peers and the acceptability of wearing hats or long-sleeved shirts in public. For more information, contact Dr. John Lowe at the Center for Health Promotion and Cancer Prevention Research, Medical School at the University of Queensland in Australia at <j.lowe@mailbox.uq.edu.au>.

National and Community-Wide Program: Australia's SunSmart Program

Australia's SunSmart program, an initiative of the Anti-Cancer Council of Victoria, promotes awareness of skin cancer and sun protection measures to children, teenagers, and adults. The SunSmart program includes a media campaign, outreach programs, and research efforts. The media campaign includes advertisements in magazines and trade journals, television commercials, and press coverage of SunSmart activities and messages.

Through a variety of outreach programs, SunSmart provides technical assistance, research, training, and a variety of educational and promotional resources to

organizations that can reach many at-risk individuals. SunSmart outreach programs target primary and secondary schools, child-care facilities, community health service organizations, local government, medical specialists, workplaces, community groups, sport and recreation clubs, and the tourism industry. One goal of SunSmart is to encourage these organizations to institute sun-safe policies, such as requiring participation in educational programs or the building of shade infrastructure.

To determine the effectiveness of its media and outreach activities and to guide future changes to the program, the Anti-Cancer Council of Victoria periodically evaluates SunSmart. In its most recent evaluation, the council determined the following to be key elements to SunSmart's success:

- **Consistency and continuity.** SunSmart has been successful because it has been able to sustain its efforts over the long term—SunSmart has been operating full-scale since 1988. SunSmart has achieved consistency and continuity because it has been hosted by a stable and supportive organization with common goals and a strong research capability, and it has had reliable and sufficient funding from its host organization and outside sources with similar health promotion goals.
- **Research and evaluation.** SunSmart has tailored its efforts based on research of its target audience's attitudes and behaviors towards sun protection and skin cancer and on aspects of society that could support or undermine health messages. In addition, the progress of SunSmart has been consistently evaluated, helping the organization reshape its focus when necessary to achieve its goals.

More information on SunSmart can be found at <www.sunsmart.com.au>.

Media-Based Program: Choose Your Cover

Through the Choose Your Cover media campaign, the CDC develops and distributes sun-safe public service announcements (PSAs) and press releases to broadcast and print outlets nationwide. The campaign also has included several strategic partnerships to further disseminate sun protection messages. For example, since 1999, CDC has worked with *Seventeen* magazine to sponsor photography and T-shirt contests that educate young adults about skin cancer and sun-safe behaviors. In addition, the campaign has included partnerships with the U.S. Olympic Synchronized Swimming Team and the Weather Channel.

Another important component of the Choose Your Cover campaign are educational materials, including posters, brochures, and a Web site. The Choose Your Cover Web site <www.cdc.gov/ChooseYourCover> includes facts and statistics about skin cancer, information about the program, and access to all campaign and educational materials, some of which can be ordered online. A number of state health programs have incorporated or modified Choose Your Cover materials into their own skin cancer prevention programs.

National Program: National Skin Cancer Prevention Education Program

The Choose Your Cover campaign is only one part of CDC's National Skin Cancer Prevention Education Program (NSCPEP) <www.cdc.gov/cancer/nscpep/index.htm>. In addition to the Choose Your Cover media campaign, CDC conducts research, funds outreach programs, and builds partnerships to extend the reach and improve the effectiveness of skin cancer prevention efforts in the United States. For example, CDC established the National Council on Skin Cancer Prevention, a coalition of organizations dedicated to fighting skin cancer on a nationwide basis. The goals of the coalition—which includes 24 organizations, including the American Academy of Dermatology and the American Cancer Society—are to:

- Increase skin cancer awareness and prevention behaviors among all populations, particularly those at high risk.
- Develop and support partnerships to extend and reinforce core messages for behavior change.
- Coordinate nationwide efforts to reduce skin cancer incidence and mortality.
- Develop a national skin cancer prevention and education plan.

CDC also established a Federal Council on Skin Cancer Prevention to promote sun-safe behaviors among federal agency employees and their families.

To support innovative state and national skin cancer prevention education initiatives, CDC funds a number of outreach programs through NSCPEP. One currently funded program, PoolCool, seeks to educate parents, lifeguards, pool managers, and young children about sun-safe behavior when they visit swimming pools. NSCPEP research focuses on determining national trends in sun protection behaviors and evaluating current skin cancer prevention efforts. CDC research also supports the *Guide to Community Preventive Services*, a federally sponsored initiative that will help communities develop effective skin cancer (and other disease) prevention education programs. For more information on this guide, see <www.thecommunityguide.org/guide_basics/guide_basics_f.html>.